**Report of the UN/ILO Working Group on the Harmonization of the Classification Criteria for Physical Hazards**

1. The UN/ILO Working Group on the Harmonization of Classification Criteria for Physical Hazards met on 11 December 2000 under the chairmanship of Mr. G. Oberreuter (Germany).

2. The representative of the following countries and organizations took part in this session : Argentina, Australia, Austria, Bahamas, Belgium, Brazil, Canada, China, Czech Republic, Finland, France, Germany, Islamic Republic of Iran, Italy, Japan, Mexico, Netherlands, Norway, South Africa, Sweden, Switzerland, Tunisia, United Kingdom, United States of America, European Commission, Chemical Specialities Manufacturers Association (CSMA), Federation of European Aerosol Associations (FEA), Hazardous Materials Advisory Council (HMAC), International Council of Chemical Associations (ICCA), International Maritime Organization (IMO) and World Nuclear Transport Institute (WNTI).

**Gases**

Informal documents : INF.28 (Chairman of the Committee)
INF.78 (Chairman of the Working Group)

3. The Working Group noted that the IOMC Coordinating Group confirmed that this Working Group should develop classification criteria for compressed gases as a basis for harmonization of hazard communication in this area.

4. The Working Group noted that the Committee had adopted new provisions concerning receptacles for gases and that new definitions had been agreed in this respect.

5. The Working Group considered that, in response to the request of the IOMC Coordinating Group, it had to develop criteria for identifying the hazards presented by gases, irrespective of other hazards such as toxicity or flammability. Therefore the Working Group considered that the definition should be as follows:

> "Gases which are contained in a receptacle at a pressure not less than 280 kPa at 20 °C, or as a refrigerated liquid, are considered as dangerous irrespective of the fact that they may also present other hazardous properties such as toxicity or flammability. Gases, for packing purposes, are also divided as follows:
>
> (a) ***Compressed gas*****:** a gas which when packaged under pressure is entirely gaseous at -50 °C; this category includes all gases with a critical temperature less than or equal to -50 °C;
>
> (b) ***Liquefied gas*****:** a gas which, when packaged under pressure, is partially liquid at temperatures above -50 °C. A distinction is made between:
>
> *High pressure liquefied gas*: a gas with a critical temperature between -50 °C

and +65 °C; and

*Low pressure liquefied gas*: a gas with a critical temperature above +65 °C;

(c) ***Refrigerated liquefied gas*:** a gas which when packaged is made partially liquid because of its low temperature; or

(d) ***Dissolved gas*:** a gas which when packaged under pressure is dissolved in a liquid phase solvent."

**Flammability of aerosols**

Documents : ST/SG/AC.10/C.3/2000/34 (CSMA/FEA)
ST/SG/AC.10/2000/23 (FEA)
ST/SG/AC.10/2000/26 (United States of America)
ST/SG/AC.10/C.3/34, annex 5
ST/SG/AC.10/C.3/36, annex 4

Informal document : INF.61 (FEA)

6. The Working Group reviewed the decisions already taken and reached the following considerations.

7. With respect to ST/SG/AC.10/C.3/36, annex 4, para. 8, the second orientation test is relevant for the distance ignition test only.

8. The Working Group agreed that aerosols with 1% or less of flammable components should be classified as non-flammable and those with 85% or more flammable components should be classified as extremely flammable.

9. The representative of the European Commission, supported by some delegations, said that he would prefer to define three levels of flammability as this would encourage the industry to produce aerosols falling within the middle category. If two levels only were provided there would be too much difference between the lower level and the higher level and this would not constitute an incentive for the industry to consider medium flammable products rather than extremely flammable products. Some delegations did not consider it appropriate to consider encouraging the use of less flammable compounds as a basis for developing criteria.

10. For foam aerosols, if there is a stable flame of 4 cm height for not less than 2 seconds, the aerosol should be considered as flammable. Another criterion was proposed by Italy for extreme flammability as follows: [≥ 20 cm] stable flame [and] [or] [seven or more] seconds. These extreme flammability figures were placed in square brackets pending verification by the industry.

11. For spray aerosols, it was agreed that if the heat of combustion was above 20 kJ/g, the aerosol would be considered as flammable. A second value of [30 kJ/g] was placed in square

brackets for a higher level.

12. If the heat of combustion of spray aerosols was below 20 kJ/g, an ignition distance test should be performed, and should be considered as positive if the ignition occurred at a distance comprised between 15 cm and 90 cm.

13. If ignition occurred at a distance of [45 cm/90 cm] (to be confirmed) or more, the aerosol would be considered for classification in the higher flammability level.

14. If there were no positive results in the ignition distance test an enclosed space test should be carried out. Two parameters have to be considered: time equivalent and deflagration density. A time equivalent of 150 $s/m^3$ was agreed in the July 2000 meeting, but 300 $s/m^3$ was now also suggested for consideration. As for deflagration density a value of 600 $g/m^3$ was mentioned, but equal numbers to the time equivalent were also discussed. These values are still open for discussion.

15. With respect to the three levels of flammability within the existing system of the European Union, the representative of FEA said that they were related to the flash point of the contents (below 0 °C, between 0 °C and 21 °C, between 21 °C and 55 °C).

16. The European Commission was invited to consider whether it could be possible to amend that system in accordance with the proposed new criteria, taking into account that, instead of a system with definitions, the proposed system would include a specific test regime and sequence.

17. The Working Group agreed that the final decision on remaining issues should be left to another session of the Working Group during the next session of the Sub-Committee of Experts on the Transport of Dangerous Goods if data and proposals were submitted in time, especially by the industry (deadline: 12 April 2001), or otherwise during the December session.

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